16 December 2021

Submission: Proposed changes to the Nationwide House Energy Rating Scheme (NatHERS)
The Australian Pipelines and Gas Association (APGA) represents the owners, operators, designers, constructors and service providers of Australia's pipeline infrastructure, with a focus on high-pressure gas transmission. APGA's members build, own and operate the gas transmission infrastructure connecting the disparate gas supply basins and demand centres of Australia, offering a wide range of services to gas producers, retailers and users.

APGA welcomes the opportunity to contribute to the Department of Industry, Science , Energy and Resources (DISER) consultation on Proposed changes to the Nationwide House Energy Rating Scheme (NatHERS) (the **Consultation**). APGA welcomes a focus on actual assessments of houses as-built which should improve compliance among builders and drive improvements in energy efficiency and emissions reduction.

APGA encourages NatHERS to consider the full spectrum of renewable and decarbonised energy options when introducing a Renewable Energy Indicator, including renewable and decarbonised gas use. Noting reference to the NCC, APGA wishes to flag concerning observations identified through the NCC 2022 consultation which indicate that the NCC 2022 will cost households more than it will save them and incentivise the development of higher emission households.

APGA supports a net zero emission future for Australia by 2050[1]. Renewable gases represent a real, technically viable approach to lowest-cost energy decarbonisation in Australia. As set out in Gas Vision 2050[2], APGA sees renewable gases such as hydrogen and biomethane playing a critical role in decarbonising gas use for both wholesale and retail customers. APGA is the largest industry contributor to the Future Fuels CRC[3], which has over 80 research projects dedicated to leveraging the value of Australia's gas infrastructure to deliver decarbonised energy to the very homes which NatHERS seeks to assess.

APGA recognises that the NatHERS update seeks to support the Trajectory by helping homeowners to understand their hone's energy performance; identify cost-effective

[1] APGA Climate Statement
https://www.apga.org.au/apga-climate-statement
[2] Gas Vision 2050, APGA
https://www.apga.org.au/sites/default/files/uploaded-content/website-content/gasinnovation_04.pdf
[3] Future Fuels CRC Website
https://www.futurefuelscrc.com/

upgrades; improve energy efficiency; and reduce energy bills. APGA also notes the Trajectory intention reduce greenhouse gas emissions.

A technology neutral NatHERS would create more value for society

In seeking to achieve its objectives, APGA wishes to propose that NatHERS take a technology neutral approach to considering energy costs and emissions intensity. Being that NatHERS applies to existing households, APGA notes that it will be much more cost-effective for a household to contract 100% renewable gas than replace early life gas appliances in order to achieve emission reductions.

While some Australian households are already receiving blended renewable gas today, a range of initiatives are working towards the not-too-distant reality of households being able to contract renewable gas in much the same way as households can contract renewable electricity today. To this point, APGA notes the following ongoing changes impacting the future of gas supply:

- Customers can purchase decarbonised gas today through offset regimes such as those provided by Origin Energy[4] and AGL[5];
- The combined DISER, AEMC and AEMO consultations on extending gas market regulation to include hydrogen and other renewable gases bringing widespread renewable gas uptake one step closer to customers[6];
- Recent state-based strategies and analysis of renewable gas use including the NSW Hydrogen Strategy[7] and Victorian Gas Substitution Roadmap[8];
- Some Adelaide residents are already using renewable gases through a pilot project developed by AGIG[9], with more to come across coming months[10,11] and years[12];
- The further development of a renewable gas industry in Australia is expected to make large-scale retail purchase of renewable gases a reality in the years to come;

[4] Green Gas, Origin Energy
https://www.originenergy.com.au/electricity-gas/green/
[5] Carbon Neutral Energy, AGL
https://www.agl.com.au/residential/carbon-neutral
[6] Extending the national gas regulatory framework to hydrogen blends and renewable gases, DISER
https://www.energy.gov.au/government-priorities/energy-ministers/priorities/gas/gas-regulatory-framework-hydrogen-renewable-gases
[7] NSW Hydrogen Strategy
https://www.energy.nsw.gov.au/sites/default/files/2021-10/GOVP1334_DPIE_NSW_Hydrogen_strategy_FA3%5B2%5D_0.pdf
[8] Victorian Gas Substitution Roadmap, Victorian Government DELWP
Help Us Build Victoria's Gas Substitution Roadmap | Engage Victoria
[9] Hydrogen Park South Australia, AGIG
https://www.agig.com.au/hydrogen-park-south-australia
[10] Western Sydney Green Gas Project, Jemena
https://jemena.com.au/about/innovation/power-to-gas-trial
[11] Malabar Biomethane Project, Jemena
https://jemena.com.au/about/innovation/malabar-biomethane-project
[12] ARENA Hydrogen Announcement
https://arena.gov.au/news/over-100-million-to-build-australias-first-large-scale-hydrogen-plants/

- Decarbonisation of gas infrastructure is likely to be achievable at half the additional cost of electrification based on research conducted by the gas industry[13].

These initiatives are contributing to the growing base of evidence indicating that renewable gas uptake may represent a least cost approach towards gas use decarbonisation in Australia as seen in Figure 1 below[14].

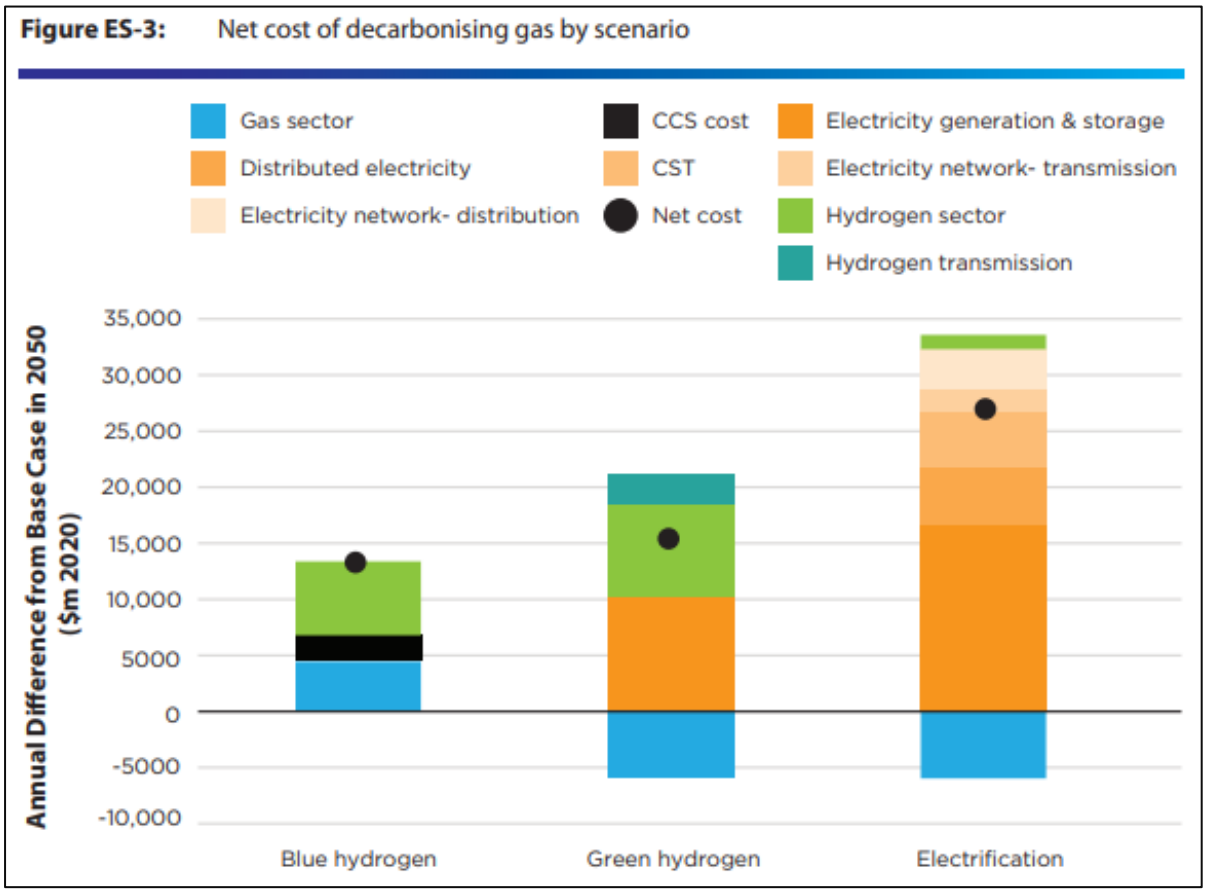

Figure 1: Net cost of decarbonising gas by scenario as seen in Gas Vision 2050[13]

NCC 2022 Concerns

In noting that NatHERS intends on basing some of its calculations on the National Construction Code (NCC), APGA also wishes to flag concerns identified through the NCC 2022 consultation processes. These observations indicate that the NCC 2022 will cost Australian households more than it will save them while also incentivising the development

[13] Gas Vision 2050, APGA
https://www.apga.org.au/sites/default/files/uploaded-content/website-content/gasinnovation_04.pdf
[14] The Benefits of gas infrastructure to decarbonise Australia, Frontier Economics 2020
https://www.apga.org.au/sites/default/files/uploaded-content/field_f_content_file/frontier-2020-decarbonise-australia_0.pdf

of higher emission households. This is covered in more detail across two submissions lodged by APGA in response to recent consultations of the Draft NCC 2022[15,16].

NCC 2022 will cost consumers and society

Table ES 1 and Table ES 2 of the ACIL Allen NCC 2022 Consultation RIS clearly identifies that the cost of adhering to the NCC2022 will be greater than the potential bill savings for most Australian households, and for Australian households on average. This capital cost of NCC2022 adoption will flow on both to homeowners directly, and to renters through upwards pressure on rental prices. Serious consideration should be given to whether the approach of basing NatHERS calculations on the NCC 2022 will achieve the stated goals of the Trajectory.

To emphasise this point, please see the below excerpt of Table ES 2 from the NCC 2022 Consultation RIS.

	Option A			
	Capital costs ($)	Energy bill savings ($)	Net bill savings ($, household NPV)	Household BCR
Class 1				
NSW	3,243	2,463	-780	0.76
VIC	4,356	3,013	-1,343	0.69
QLD	979	630	-349	0.64
SA	1,478	1,951	473	**1.32**
WA	1,045	1,422	377	**1.36**
TAS	3,402	2,961	**-441**	0.87
NT	7,830	9,693	1,862	**1.24**
ACT	2,292	2,200	**-91**	0.96
Australia	2,547	2,026	**-521**	0.80
Class 2				
NSW	2,855	1,812	**-1,043**	0.63
VIC	4,226	1,521	**-2,705**	0.36
QLD	3,834	1,861	**-1,973**	0.49
SA	2,626	2,319	**-306**	0.88
WA	3,000	1,468	**-1,532**	0.49
TAS	2,269	3,128	859	**1.38**
NT	4,493	2,612	**-1,880**	0.58
ACT	2,254	2,693	439	**1.19**
Australia	3,376	1,786	**-1,590**	0.53

Figure 2: Excerpt from ACIL Allen NCC 2022 Consultation RIS[17]

[15] Submission: National Construction Code 2022 public comment draft (stage 2) consultation, APGA 2021
https://www.apga.org.au/sites/default/files/uploaded-content/field_f_content_file/211015_apga_submission_-_ncc_public_comment_draft_stage_2_consultation.pdf
[16] National Construction Code 2022 Consultation Regulation Impact Statement, APGA 2021
https://www.apga.org.au/sites/default/files/uploaded-content/field_f_content_file/211109_apga_submission_-_ncc2022_cris.pdf
[17] ACIL Allen NCC 2022 Consultation RIS, ACIL Allen 2021
https://consultation.abcb.gov.au/engagement/consultation-ris-proposed-ncc-2022-residential/

Ineffective policy can increase emissions

APGA identified that the NCC 2022 will incentivise higher emission households. Table 1 includes one of many examples APGA provided the Australian Building Code Board to query whether the NCC 2022 achieves its desired goal of reducing household emissions. In this example the more emissions intensive Heat Pump Appliance home would not required to install Solar PV to comply with NCC 2022 while the lower emission Gas Appliance home would be required to install Solar PV to comply.

Table 1: Comparison of <6 Star Gas Home and <2.5 Star Heat Pump Home (VIC6, EF = 2.320)[15]

Home Appliance Composition	NCC 2022 EE Rating	Average Efficiency	kgCO2e per kWh Input (2019)	kgCO2e per kWh Heat Output
Heat Pump <2.5 Star	2.057	300%	1.02	0.340
Gas <6 Star	3.223	88%	0.186	0.211

The tangible outcome from the above example is that the lower emission household is disincentivised by the NCC 2022 through the added expense of installing solar to comply. Additional concerns have been raised by the Air Conditioning and Refrigeration Equipment Manufacturers Association (AREMA), with AREMA president Mark Padwick recently stating that "The approach proposed by the Australian Building Code Board does not ensure reductions in energy use, at least in relation to heating and cooling"[18].

Through the NCC 2022 consultations, the ABCB advised APGA that the incentivisation of higher emissions households is due to undisclosed choices made by the ABCB in weighting variables within their calculations. APGA propose DISER make inquiries into the development of NCC 2022 calculations before founding NatHERS calculations upon the same basis. Not understanding precisely how the NCC 2022 costs Australian households more and disincentivises emissions reduction risks NatHERS driving increased energy costs and emissions intensity of Australian households.

Option to decrease emissions – contracting renewable energy supply

Zero emission gas and electricity can both be contracted by households today. Contracting of zero emission energy represents a real, tangible opportunity for existing households to immediately reduce their energy emissions, often at lower cost than appliance replacement. Where emissions conscious households take this choice, they should not be penalised by NatHERS for their choice in approach to achieve the desired NatHERS outcome.

Some forms of zero emission electricity and gas rely on carbon offsets, while some forms deliver energy from renewable sources. It is important to recognise that both approaches to emissions reduction are recognised by the federal government and contracting of produced

[18] AREMA withdraws support for NCC 2022, Climate Control News 2021 https://www.climatecontrolnews.com.au/news/latest/arema-withdraws-support-for-ncc-2022?utm_medium=email&utm_campaign=Newsletter%20-%208%20Dec%202021&utm_content=Newsletter%20-%208%20Dec%202021+CID_f180790169ad48d716fcd164835c4005&utm_source=Email%20marketing%20software&utm_term=Read%20more

renewable gas is just around the corner. Considering the energy which a household chooses to contract alongside the appliances within a household allows NatHERS to consider the whole equation for whole of home energy use.

To discuss any of the above feedback further, please contact me on +61 422 057 856 or jmccollum@apga.org.au.

Yours Sincerely,

JORDAN MCCOLLUM
National Policy Manager
Australian Pipelines and Gas Association